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ABSTRACT

The literature indicates an increase over the past decade in the number of states that require special education coursework for preservice general education teachers. This paper focuses on one course and one project at the University of Utah that attempt to promote collaboration among regular and special educators. The course, Educational Partnerships: Serving Exceptional Students, provides a fundamental understanding of exceptionalities, mainstreaming techniques, and professional collaboration. In the federally funded project, Site-based Transdisciplinary Educational Partnerships (STEP), students in four education departments engage in collaborative activities during two academic quarters while working with at-risk or disabled students in the public schools. A questionnaire covering demographic information, attitudes toward mainstreamed students, and perceptions of own knowledge about and ability to work with disabled students was administered to 35 elementary majors taking the Educational Partnerships course (SPED) and 9 education majors in the STEP project before and after their coursework. A third group of 14 secondary school majors not required to take special education coursework was given only a posttest. A significant gain from pretest to posttest for the total instrument was achieved by the SPED group, but not by the STEP group (which may have experienced a "ceiling" effect due to higher pretest scores). Both SPED and STEP groups showed significant increases at posttest in skills and knowledge base. There were no differences among the three groups in attitudes toward mainstreamed disabled students. (Contains 13 references.) (SV)

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ARE PRESERVICE GENERAL EDUCATORS BEING ADEQUATELY PREPARED FOR INCLUSION?

ED 369 594

Introduction

Historically, special education and general education have coexisted as dual systems at the school level and at the preservice level. At the school level, special education services have typically involved pulling students out of their regular classes to receive "special" instruction in segregated settings. At the preservice level, future educators from both disciplines typically received their training with little or no interaction with the other.

The practice of mainstreaming (placing students with disabilities in regular classrooms) has been around for many years but has not been practiced consistently in all parts of the country. The least restrictive environment provision (LRE) of Public Law 94-142 (now referred to as PL 101-476, the Individuals with Disabilities Education Act, or IDEA) resulted in a dramatic increase in the number of students with disabilities who received some or all of their education in the general classroom. However, this dual system of education and teacher preparation has persisted.

This dual system of education has been challenged by many parents and professionals over the last two decades. Probably the most influential challenge came from Madeline Will, the former Assistant Secretary for the Office of Special Education and Rehabilitative Services. In her 1985 speech and subsequent writings, Secretary Will called for a "shared responsibility" between regular and special education. Rather than the consolidation of the two fields, Will (1986) called for an educational partnership in which special education and general education "cooperatively assess the educational needs of students with learning problems and . . . cooperatively develop effective educational strategies for meeting those needs" (p. 415).

Secretary Will's call for a shared responsibility between the two disciplines soon became known as the "regular education initiative" or "REI." More recently, the terms "full inclusion" and "neighborhood school movement" have become popular. As these movements gain acceptance the likelihood that teachers in the general classroom will be expected to work with diverse student populations (including students with disabilities) also increases.

But how are general educators being prepared to work with these students with diverse needs? Jones and Messenheimer-Young (1989) conducted a review of the literature and found that there has been an increase over the past decade in the number of states that require some special education coursework by preservice general education teachers. As of 1980, Smith and Schindler reported that only 15 states required a course on exceptionalities for teacher certification. Hartle (1982) found that 17 states had a special education course requirement and 18 states had competencies only; 5 states required both coursework and competencies, but 11

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states had no requirements. By 1984, Ganschow, Weber, and Davis reported that 21 states required special education coursework, 15 states had identified competencies, and 14 states had no requirements. Patton and Braithwaite (1990) reported that 37 states required special education coursework for initial general education certification, and that 14 states had no requirement.

A survey by Fender and Fielder (1990) was conducted to determine university special education coursework requirements for students enrolled in general education programs. The following is a summary of their findings: (a) 80% stated that a special education course was required by the state, and 85.5% stated that it was also a university requirement; (b) most of the courses were either 3 semester hours or 3 quarter hours; (c) 67.5% of the sites reported that information on disabilities was integrated into additional courses; (d) 61% of the students taking the special education course were elementary majors and 29.8% were secondary majors; (e) 33.5% reported that a field experience was also required, but 28.9% said that it was not; 80.1% stated that this was the only required special education course for general education majors.

Jones and Messenheimer-Young (1989) identified the two main types of special education courses that are usually required of preservice general educators: exceptionalities courses and mainstreaming courses. Exceptionalities courses mostly focus on the characteristics of students with various disabilities. Mainstreaming courses generally cover the modification of curriculum, instruction, and learning environments for students with disabilities. Welch and Sheridan (in press) have criticized both types of courses stating that exceptionalities courses tend to perpetuate stereotypes and attitudes that reinforce perceived differences, and that neither type promotes educational partnerships or collaboration with other professionals or parents.

Downing and Bailey (1990) reported on a trend in which preservice educators from all disciplines (general education, special education, school psychology, counseling, and administration) are being trained and socialized to support each other through collaboration. Bucci and Reitzammer (1992) stated that "teachers who work with students in at-risk situations must recognize that they are part of a team effort focusing on the academic, health, and social development of the student and that they function as part of the community" (p. 292).

The present study focused on one course and one project at the University of Utah which were attempts to promote educational partnerships and collaboration between professionals. The course was called Educational Partnerships: Serving Exceptional Students (SPED 503). This course is a requirement for elementary education and special education majors. The course provides a fundamental understanding of exceptionalities, mainstreaming techniques, and professional collaboration. The two main components of the class are class discussions and field-based projects. Students from both disciplines are assigned to teams to complete the field-based projects. The main objective of the field-based projects is to instill the collaborative ethic at the preservice level. The course emphasizes an ecological approach that promotes an awareness of the existing resources within schools for meeting the needs of students and teachers.

The project that was investigated in this study was called the Site-based Transdisciplinary Educational Partnerships (STEP) project. STEP is a federally funded project in which transdisciplinary teams, comprised of students from the departments of Educational Studies, Special Education, Educational Psychology, and Educational Administration, engage in

collaborative activities over two academic quarters while working with students who are at-risk or with students with disabilities in public school settings.

The purpose of this study was to investigate the effect of special education coursework on the attitudes and perceived competencies of preservice general education teachers towards students with disabilities in the general classroom. The study asked the following three research questions: 1. Will special education coursework result in a significantly higher posttest gain score for the total instrument (attitude survey and skills and knowledge survey)? 2. Is there a significant difference in the reported attitudes of preservice general educators towards mainstreamed students with disabilities between the three treatment groups? and, 3. Is there a significant difference in the perceived skills and knowledge of preservice general educators towards working with mainstreamed students with disabilities between the three treatment groups?

Method

Subjects

The participants in this study were chosen because they represented three distinct groups of university students in relationship to the amount and type of coursework they had received in the area of special education. Group I (N= 35) was comprised of elementary majors who were enrolled in Special Education 503, Educational Partnerships: Serving Exceptional Students. Group II (N= 9) was comprised of university students from preservice teacher education programs who were participating in the STEP project. Group III (N= 14) was comprised of university students who were enrolled in a secondary teacher preparation cohort program, but who were not required to take special education coursework. Subject profile data are provided in Table 1.

Instrument

A 3-part questionnaire was used in this study. Part I (items 1-8) was developed to obtain demographic information about the subjects. Data from Part I of the questionnaire are reported in Table 1. Part II (items 9-38) was a 30-item, 6-point, Likert-type survey on attitudes towards mainstreamed students that was adapted from a previous study by Larrivee and Cook (1979). Subjects were asked to respond to the stimulus questions on a scale of 6 (strongly agree) to 1 (strongly disagree). The original 5-point instrument was changed to a 6-point in order to force the subjects into declaring either a positive or a negative response rather than a neutral one. A split-half reliability of .92, as determined by the Spearman-Brown reliability coefficient, was reported by Larrivee and Cook (1979). Green, Rock, and Weisenstein (1983) reported an internal consistency reliability of .89. This author maintains that the change from a 5-point scale to a 6-point scale should not significantly alter the reliability coefficients.

Part III (items 39-54) of the questionnaire was adapted from a previous instrument developed by Phillips, Allred, Brulle, and Shank (1990). This 16-item survey was included to measure the subjects' perceptions of their knowledge about and ability to work with students with

Table 1
Subject Profile

1. Educational Studies major?	Group I: Yes - 35; No - 0 Group II; Yes - 6; No - 3 Group III; Yes - 0; No - 14
2. Elementary or Secondary?	Group I: Elem. - 35; Sec. - 0 Group II: Elem. - 6; Sec. - 3 Group III: Elem. - 0; Sec. - 14
3. Approximate number of quarter hours taken in educational studies.	Group I: mean = 43 Group II: mean = 45 Group III: mean = 17
4. Previous special education coursework?	Group I: Yes - 5; No - 30 Group II: Yes - 8; No - 1 Group III: Yes - 1; No - 13
5. Previous teaching experience?	Group I: Yes - 13; No - 22 Group II: Yes - 6; No - 3 Group III: Yes - 5; No - 9
6. Previous experience working with children with disabilities?	Group I: Yes - 12; No - 23 Group II: Yes - 8; No - 1 Group III: Yes - 6; No - 8
7. Age?	Group I: mean = 29.8; median = 26; range = 20 - 48 Group II: mean = 34.3; median = 35; range = 21 - 44 Group III: mean = 26; median = 24.5; range = 20 - 39
8. Gender?	Group I: Female - 33; Male - 2 Group II: Female - 8; Male - 1 Group III: Female - 9; Male - 4

disabilities. The items used in Part III were also converted to a 6-point, Likert-type response format. To prevent the total instrument from being too lengthy, only 16 items from the Phillips et al. instrument were used. No reliability or validity coefficients have been reported for Part III. However, post hoc comparisons using data from Group I (SPED 503) and data from the same subject pool (who were not included in the final data because they had not taken the pretest) did not indicate a significant difference in mean scores. Also, the author presented the items from Part III to several colleagues who determined that these items demonstrated good face validity.

Procedures

The subjects from Group I (SPED 503) and Group II (STEP) were asked to complete the questionnaire during the first class session (pretest) and again during the last class session (posttest). Since the subjects in Group III (Cohort) did not receive treatment (special education coursework), they were only given a posttest. All subjects were informed that participation was voluntary and that their anonymity would be maintained. All data were collected during the 1993 winter and spring quarters.

Results

Likert-type data, while clearly ordinal in nature, do permit the calculation of an arithmetic mean. Although treating ordinal data like interval data makes false assumptions (1. that all respondents have a common understanding of each response's meaning, and 2. that an equal distance exists between each category), it has become an accepted practice with Likert-type data because of the power of the information that is obtained (Rea & Parker, 1992). The author of this study used analysis of variance (ANOVA) to test for significant differences between treatment groups.

Research Question 1

This question asked: "Will special education coursework result in a significantly higher pretest to posttest mean gain score for the total instrument?" For this question, Group I (SPED 503) and Group II (STEP) were compared. ANOVA revealed a significant difference in pretest to posttest gain scores between the two groups: $F(1, 42) = 22.2$, $p < .001$ (see Table 2). A summary of pretest, posttest, and gain scores is provided in Table 3.

Research Question 2

Question 2 asked: "Is there a significant difference between treatment groups in reported attitudes towards mainstreamed students?" Data from Part II of the instrument were compared between the three treatment groups. ANOVA did not indicate a significant difference between the three groups at the $p < .05$ level (see Table 4). A summary of posttest mean scores from Part II is provided in Table 5.

Table 2
Analysis of Variance With Posttest-Pretest Gain Scores

Source	SS	DF	MS	F	P
Mean	3.02176	1	3.02176	22.36	0.0000
Method	3.00113	1	3.00113	22.20	0.0000*
Error (1)	5.67692	42	0.13516		

Note. Method = Group I (students enrolled in Special Education 503) and Group II (students enrolled in the STEP Project).
*p < .001

Table 3
Pretest to Posttest Gain Score Comparison

Group	n	Pretest M	SD	Posttest M	SD	Gain
I (SPED 503)	35	3.79	.36	4.44	.35	.65
II (STEP)	9	4.36	.40	4.36	.56	.00

Table 4
Analysis of Variance With Posttest Scores
Opinion and Attitude Survey

Source	SS	DF	MS	F	P
Mean	801.62730	1	801.62730	4071.14	0.0000
Method	0.54785	2	0.27393	1.39	0.2574*
Error (1)	10.82977	55	0.19690		

Note. Method = Group I (students enrolled in Special Education 503), Group II (students enrolled in STEP Project), and Group III (students in cohort-control group).
*p > .05

Research Question 3

Question 3 asked: Is there a significant difference between treatment groups in perceived skills and knowledge for working with students with disabilities?" ANOVA revealed a significant difference between treatment groups: $F(2,55) = 9.77$, $p < .001$ (see Table 6). A summary of posttest scores from Part III is provided in Table 7.

Discussion

Concerning research question 1, analysis of the data suggests that special education coursework did result in a significantly higher posttest gain score (.65) for Group I (SPED 503) than for Group II (STEP) (.00 gain). The implications of this finding needs to be considered within a broader context. First, for most of the subjects in Group I (SPED 503) this was their first exposure to special education coursework. Most of the subjects in Group II (STEP) had been exposed to previous special education coursework, including the course that Group I was currently enrolled in. Second, the subjects in the STEP project are self-selected in that participation is voluntary and that they enter the project with preexisting favorable attitudes towards students with disabilities. Third, since the subjects from Group II (STEP) started with a higher pretest mean than the subjects from Group I (SPED 503) they probably had less room to demonstrate growth. This could be attributed to a "ceiling effect" in that the subjects' pretest scores were at or near the possible upper limit (Vogt, 1993). Realistically, Group II could not have demonstrated as much gain as Group I. This should not, however, diminish the significant gain that was made by Group I.

The author was surprised by the results of research question 2. The data revealed no significant difference between the three treatment groups concerning attitudes towards mainstreamed students. The original hypothesis was that Group I and Group II would be significantly higher than Group III (Cohort). One possible explanation for this is that the subjects from Group III responded the way they thought they "should" rather than how they really believed. However, if the subjects did respond truthfully, the results of this section indicate a positive trend and could indicate that future educators will be more receptive to working with students with disabilities.

The results from research question 3 were not as surprising. As predicted, the subjects from Group I (SPED 503) and Group II (STEP) produced a significantly higher score on the skills and knowledge base section of the questionnaire. This finding suggests that although preservice educators in general report positive attitudes towards students with disabilities, the subjects who have received special education coursework report a higher confidence level in their knowledge base and abilities to work with these students. This finding supports the position that all preservice educators can benefit from coursework that focuses on techniques and strategies for working with students with disabilities in the general classroom and collaboration with other professionals. Moreover, this study supports the findings of previous studies (Hartle, 1982; Hoover, 1986; Jones & Messenheimer-Young, 1989; Phillips et al., 1990) that the infusion of special education curriculum into the general education program is beneficial and should continue.

Table 5
Opinion and Attitude Survey
Mean Scores Summary

Group	n	Pretest M	SD	Posttest M	SD
I (SPED 503)	35	3.79	.36	4.44	.35
II (STEP)	9	4.36	.40	4.36	.56
III (Cohort)	14			4.21	.57

Table 6
Analysis of Variance With Posttest Scores:
Skills and Knowledge Base Survey

SOURCE	SS	DF	MS	F	P
MEAN	813.55940	1	813.55940	2335.28	0.0000
METHOD	6.80729	2	3.40365	9.77	0.0002*
ERROR (1)	19.16080	55	0.34838		

*$p < .001$

Table 7
Skills and Knowledge Base Survey
Mean Scores Summary

Group	n	Pretest M	SD	Posttest M	SD
I (SPED 503)	35	3.65	.81	4.63	.55
II (STEP)	9	4.42	.26	4.64	.48
III (Cohort)	14			3.83	.73

Limitations

The author acknowledges the following limitations of this study. First, the unequal size of the treatment groups and the small number of subjects in Group II and Group III make generalization of the results difficult. Second, the possibility that Group II (STEP) experienced a ceiling effect makes the value of a pretest to posttest comparison questionable for these subjects. A third limitation is the possible effect of test practice on the internal validity when doing a pretest to posttest comparison. However, examination of the data along with the length of time between measures has led the author to conclude that test practice influence was minimal. A fourth limitation is the lack of data supporting the reliability and validity of Part III of the instrument. A follow-up study is currently in progress to further validate this study and to address the limitations of this study.

Recommendations

The author recommends that a more informative and appropriate approach to use in investigating the effectiveness of the STEP project would be through a qualitative study. This study could take the form of interviews (structured and unstructured) and site observations, and would be conducted after the participants had completed the STEP project and when they had obtained positions in the public schools. The study would focus on the perceived benefits of the project in relation to actual job experiences. Observations would help to determine whether or not methods and procedures that were taught in the project were actually being used. The observations would also help to determine if collaboration was being practiced by the participants.

Conclusion

If Will's call for a shared responsibility between regular and special education is to become a reality it is essential for all of the educational disciplines to work together at the preservice level. Each discipline has its own unique set of skills and information. When professionals from the different disciplines collaborate they become more effective and, in turn, provide better services for all students.

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